INDUSTRIAL HYGIENE INFORMATION AND REGULATORY ACTIONS SUMMARY AUGUST 2000

TABLE OF CONTENTS

REGULATORY ACTIONS

OSHA STANDARDS - None

OSHA PROPOSED RULES - None

OSHA ACTIVITIES

Source – Synergist, June/July 2000

Issues for the remainder of 2000 OSHA Final Proposed legislative Agenda:

1. Ergonomics- Finalize Ergo standard
2. Final implementation of the recordkeeping standard.
3. Steel erection standard
4. Employer pay for using PPE
5. TB standard

OSHA Accepts E-Signatures on Training Records

The flap over telecommuters has put OSHA's letters of interpretation mechanism in a funk, based on the letters posted at www.osha.gov. But Seattle's NetCompliance Inc. reveals that OSHA has become the first federal agency to declare its support for electronic signatures since President Clinton signed the Electronic Signatures In Global And National Commerce Act in June. Daimler-Chrysler Safety and Health Specialist Robert Champion asked whether OSHA would accept electronic signatures for mandatory training records. Richard Fairfax, director of OSHA's compliance programs, answered that the agency's standards "generally require the employer and trainers to sign a certification record which includes the identity of the person(s) trained; signatures of the employees are not required." He added, "If you mean every time the [management or training] person signs, his or her signature will be

electronically stored, then OSHA would have no objection to the us e of an electronic signature pad to satisfy the certification requirements."

OSHA Blasted by Consumer Advocacy Group

OSHA came under fire recently by the consumer advocacy group, Public Citizen, for its failure to propose a new regulation to limit workplace exposure to hexavalent chromium. According to a newly-released study by the group, workers who have been exposed at the current hexavalent chromium PELs were 2.2 times more likely to die from lung cancer than workers who had never been exposed at all to the chemical.

The study led the advocacy group to issue a highly charged letter to OSHA Assistant Secretary Jeffress in which it criticized the Clinton Administration's record on proposing health standards for chemicals. The letter cited the Administration's failure to "propose a single regulation of a hazardous chemical in the 71/2 years. "This is the poorest record for chemical health standards of any administration since OSHA went into effect in 1971."

Responding to these allegations, OSHA issued a statement, saying that it "welcomed" the results of the hex-chrome study. The agency says will allow them to proceed further with its rulemaking. OSHA has delayed publication of the PELs for the last five years. According to its regulatory schedule, OSHA plans to issue a NPRM in June 2001—six years after affected workers initially petitioned OSHA to issue a temporary standard to lower the PELS.

Out With the Old----In With the New

OSHA recently issued a compliance directive to protect their employees from exposure to respiratory hazards. The move comes two years after the agency adopted a new, sweeping respiratory protection standard for industry. The document replaces the old directive which, according to the document "eliminates the discrepancies and technical inaccuracies" that exist between the old directive and the new standard. It also establishes new guidelines.

The new directive would require that, prior to entering hazardous areas, compliance officers identify work sites, processes, or tasks that require respiratory protection. They must also conduct a pre-inspection evaluation for their potential exposure to chemicals.

CONGRESSIONAL ACTIONS OF INTEREST

Two New Bills Wade Into OSHA's Jurisdiction

Two conservative members of the House Commerce Committee have introduced bills that would have a huge impact on OSHA's enforcement. H.R. 5037 and H.R.

5038 would shield employers from citation on multi-employer sites in certain circumstances. H.R. 5037 gives employers immunity from citations if they prove that employees had proper training and equipment, sufficient work rules were adequately communicated, and "the failure of employees to observe work rules led to the violation."

Both bills were introduced July 27 and referred to the House Committee on Education and the Workforce. The Congressmen behind them are Ralph M. Hall, a Texas Democrat, and Louisiana Republican Billy Tauzin. Hall has few bills active in this session, and the International Safety Equipment Association's Aug. 29 *Washington Report* gave 5037 only a slim chance of passing. He serves on the Commerce Committee's Health and Environment Subcommittee and its Finance and Hazardous Materials Subcommittee

Information from the AIHA Government Affairs Group

by Aaron K. Trippler, Director and Christina Cullinan, Coordinator - August 9, 2000

FY01 Labor - HSS Bill Mired Down by Controversy

Despite the GOP leadership's ambitious plans to send the FY01 Labor-HHS bill (H.R. 4577) to the President before the August congressional recess, House and Senate appropriations conferees were unable to meet this timeframe due to a number of remaining contentious provisions within the bill.

Typically, the Labor-HHS bill is the last of the 13 appropriations bills to reach the President's desk. It is by far the most controversial and is usually not agreed to until after the start of the fiscal year (October 1) where it is often included as part of a massive, omnibus spending package. This year, however, the Republican leadership decided that early consideration of the Labor-HHS bill may clear the way for the remaining spending measures.

Although negotiations over the conference report are expected to continue after the recess, early reports on what has been agreed to have emerged—primarily agency and program funding levels. OSHA has been fully funded at the president's requested amount of $426 million. NIOSH funding levels came in at $230.8 million—approximately $16 million more than was requested by the White House.

How the ergonomics issue will be resolved is anybody's guess at this point. Currently, the conference report *does* include the ban on the ergonomics standard. However, the Democratic conferees have refused to sign-off on the report due, in part, to the ergonomics restriction and another contentious provision that was added during conference. However, the fact that consensus *was* reached on several issues led chief appropriators to express optimism that the outstanding differences can be resolved when Congress

returns. They are hopeful that a bipartisan bill can be sent to the White House by early September. Stay tuned….

Legislative Activity Expected to Increase as Congress Moves Toward Adjournment

With the sun setting on the end of the 106th Congress, the final push is on by the Republicans and Democrats to move as much legislation through as possible. Many issues which have been languishing since the earlier part of the congressional session are now seeing the light of day—including a few that have been on AIHA's radar screen.

Regulatory Reform

In an 11th hour attempt to move her regulatory reform legislation forward, Rep. Sue Kelly reintroduced a pared-down version in late July, which was subsequently passed by the House the day after. The "Truth in Regulating Act of 2000" (H.R. 4924) was offered as a compromise bill after the initial, broader-based legislation failed to win enough support in the House.

H.R. 4924 establishes a 3-year pilot project for the General Accounting Office to report to Congress on "economically significant" rules of federal agencies. As defined by the bill, an "economically significant" rule would be one which is expected to cost the economy at least $100 million or which would "materially/adversely impact" any sector of the economy. The provisions of the bill are triggered when either the chairman or the ranking minority member of the committee of jurisdiction requests a review of the rule.

If enacted the bill would facilitate implementation of the Congressional Review Act. Under the CRA, passed in 1996, Congress has the ability to approve or reject controversial regulations. Although use of this law has never been invoked, individual lawmakers have, on occasion, threatened to use it on proposed regulations thought to be too onerous.

Recordkeeping Delay Subject to Congressional Scrutiny

Concerned over OSHA's delay in issuing its final recordkeeping rule, House Education and Labor Workforce Protections Subcommittee chairman Cass Ballenger held a hearing in late July to solicit stakeholders' views on the holdup, including their specific concerns with the proposed rule.

Three witnesses, representing industry, testified at the hearing. They all expressed alarm over the failure by OSHA to publish the rule by now, given the ambitious timetable for the ergonomics standard. Chairman Ballenger noted that the ergo rule would "change OSHA recordkeeping requirements from a data gathering system to a triggering mechanism." He appeared

concerned that the public was not given any opportunity to go on record regarding ergo's impact on recordkeeping requirements.

Although OSHA Assistant Secretary Jeffress was invited to appear before the subcommittee, he declined and instead submitted written testimony. In his remarks, he intimated that the agency has "made some final policy decisions" in a draft version of the final regulation which are currently "under review" at the Labor Department. Since submitting his remarks, Jeffress has announced that the recordkeeping standard will **not** be published by January 1, 2001 and will therefore not be implemented at least until January 1, 2002.

AIHA submitted written comments at the subcommittee hearing to be included as part of the official hearing record. The comments were virtually identical to those supplied to OSHA during its 1996 notice and comment period, albeit one minor change. AIHA requested that adequate lead-time be given to states and employers to implement the new rule if it is delayed any further.

TECHNICAL ARTICLES OF INTEREST

VDT Breaks

NIOSH has published a study on the effects of rest breaks on video display terminal operators. The study stated that short, strategically placed rest breaks reduced eye soreness, visual blurring, and upper body discomfort without decreasing productivity. See www.cdc/niosh

Job Safety Agencies Request Research Into Possible Worker Hazards of Vermiculite

Two federal agencies are asking NIOSH to evaluate worker exposure to asbestos in various occupational settings.

OSHA and MSHA issued a joint statement following a new EPA report on the use of vermiculite in potting soils.

The EPA report noted that low levels of asbestos exist in some samples of vermiculite currently used in horticulture.

OSHA is asking NIOSH for research on vermiculite in processing operations and landscape nurseries. MSHA will be evaluating worker exposure to asbestos in vermiculite in mines.

OSHA and MSHA said they do not know if there is a hazard to workers but " it is important that we work together to assess the magnitude of potential exposures to asbestos from working with vermiculite."

The agencies promised to share findings with the public and other governmental agencies.

According to the EPA report, the use of vermiculite in potting soil and other potting products poses a " minimal risk" to consumers. Some gardening products it sampled contain low levels of asbestos, particularly in those "straight" vermiculite products intended for mixing with soil by the consumer.

Vermiculite is a naturally occurring granular substance mined for uses in insulation and horticultural products. EPA said that because the report raised the question of worker exposures, it shared it with OSHA.

ACGIH May Soon Adopt Exposure Limit To Reduce Work-Related MSDs for Hands

While a proposed federal ergonomics regulation is generating a firestorm of controversy, an industrial hygenists' group may soon quietly adopt an exposure limit to reduce work-related musculoskeletal disorders.

The recommendation could affect workers who use their hands in repetitive job tasks for four or more hours a day, according to the draft document.

ACGIH's Physical Agents Committee has recommended a "threshold limit value" for average hand activity level at four hours or more, based on repetition and normal peak force. Adverse health effects may occur above the TLV.

The committee will vote on the measure in September. If adopted, the TLV, will go to the board for approval. If approved by the board the TLV could be in effect as early as March or April 2001.

The recommended exposure limit is directed at the use of the hand, wrist, and forearm, and is intended for "mono-tasks" jobs performed for four or more hours a day, according to the draft document. It defines a mono-tasks job as one in which a similar set of motions or exertions is performed repeatedly, " such as working on an assembly line or using a keyboard and mouse."

Edington questioned whether the model on which the TLV is based has been validated to the degree that a threshold could be set. She also questioned whether the model for the TLV has been validated in the office setting, or whether it was simply an industrial model that is now being applied to the office industry.

Edington said that industry is concerned about the ACGIH TLV because it is a professional standard, and OSHA can—under the general duty clause of the Occupational Safety and Health Act—cite violations of professional and consensus standards. She noted that the recently adopted Washington state ergonomics standard references the ACGIH TLV although the value has not yet been adopted.

ACGIH noted that the TLVs are recommendations and are not intended to have the force of regulations. It is assumed that they will be "used by an informed person to make reasonable and prudent judgement in the workplace.

ACGIH is not as constrained in the development of TLVs as OSHA is in creating a rule. The committee is looking for " technical comments on our scientific position." The technical challenges to the TLV should be clear and concise.

The committee draft document points out, "Because use of the hands is fundamental to work, it is not feasible to establish a TLV that will protect all workers." The draft cautions that people who use the TLV should be "aware of the strength differences among occupational groups, genders, and ages" and there will be some workers who experience symptoms at the level.

The draft recommends that " appropriate control measures should be employed any time the TLV is exceeded or an elevated incidence of work-related musculoskeletal disorders is detected."

The document also recommends an action limit that requires administrative controls including education and surveillance "so that musculoskeletal disorders can be identified and appropriate interventions implemented while disorders are in their earliest stages."

After working on the hand activity level TLV, the committee might look next at the back. The committee also intends to look at problems with the shoulder. The committee will focus on those areas where there seem to be work-related problems and well-established models for assigning risk for developing occupational injuries.

Good Leaders Help Maintain Employee Involvement in Safety

Here is a simple list of tips you can use to keep employees involved in safety.

- **Watch your language**. Speaking in the future tense, active voice will help motivate employees you talk to.
- **Listen before giving direction**. Ask questions and listen before giving direction or advice.
- **Find facts rather than faults**. Look for causes, focus on the cause of the problem, rather than the inappropriate actions of an employee. Look to solve the problem, change the behavior, not blame an employee.
- **Give more positive than negative consequences**. Focus on the positive outcomes, things the employees are doing well. Build up their self-esteem and then build on that to improve their behaviors.

- ?? **Teach theory and principles before teaching procedures**. Focus on the desired outcomes and ensure employees understand those outcomes and why the outcome is important and beneficial to them before introducing the procedures.

- ?? Do more leading than managing. Lead by example, tell employees what you expect rather than telling them what is required.

- ?? **Get employees to actively care about safety**. Do this by raising their self-esteem, make them part of the team, listen to their opinions, coach and mentor them. These efforts will improve their interest and help them care more about their safety.

EPA Raises Diesel Concentration Level Associated With Adverse Health Effects

Scientists at EPA have backed away from earlier estimates of the extent to which diesel exhaust affects human health.

The draft review of potential health effects, *Health Assessment Document for Diesel Emissions,* contains a significantly higher " inhalation reference concentration" (RfC) for diesel exhaust than a 1999 version of the draft. The RfC is the level above which scientists think that a lifetime of exposure could lead to pulmonary inflammation or other serious noncancer illnesses.

The 1999 draft of the assessment had said that setting an RfC of 5 micrograms of exhaust per cubic meter of air is necessary to protect human health. However, in response to criticism by agency science advisers, the Aug. 8 draft raised the RfC to the less protective level of 14 ?/m.

The change is significant because EPA is in the process of tightening controls on diesel exhaust and diesel fuel. A final rule expected later in 2000 will be based in part on the draft health assessment.

As with the 1999 draft, the document continues to classify diesel exhaust as a likely human carcinogen under EPA's draft cancer guidelines. The document is not a full assessment of the risks of breathing diesel exhaust. Rather, it identifies and characterizes potential human health hazards associated with breathing diesel exhaust over a lifetime, and it characterizes the related dose-response associated with key health effects.

Protecting Hands Against Chemical Exposures

Sarkis, K., Protecting Hands Against Chemical Exposure, Occ. Hazards, pg 53-56, v62, 8, 2000.

This article presents practical guides to selecting gloves for protection against multiple chemical hazards and describes the advantages of the major types of glove materials.

Check the following sources when you need to select a glove:

- NIOSH Pocket Guide to Chemical Hazards. Available on CD
- Quick Selection Guide to Chemical Protective Clothing. by Krister Forsberg and S.Z. Mansdorf.
- Complete Guide to Understanding and Selecting Coated Work Gloves. Available from the National Industrial Glove Distributors Association (215) 564-3484.
- ANSI/ISEA 105-2000 American National Standard for Hand Protection Selection Criteria. Available from ISEA-The Safety Equipment Association at (703) 525-1695.

Glove materials.

- **Latex**. Good against bloodborne pathogens. Not so good against many chemicals and has the problem of potential latex allergy when the gloves are worn for long periods.
- **Nitrile**. Nitrile has good chemical resistance and is often less expensive than other glove materials. They are often used to replace latex in the medical community. They are not good against ketones, strong oxidizers, and chemicals that contain nitrogen.
- **Neoprene**. Good chemical resistance against acids (except inorganic acids), bases, alcohols, oils, inks and a wide range of industrial chemicals. Neoprene provides good flexibility and dexterity.
- **PVC (polyvinylchloride)**. Also called vinyl gloves work well against petroleum-based solvents. They also work well against dilute acids, nitric, chromic, hydrochloric, and phosphoric. They are durable gloves, inexpensive and offer reasonable snag and cut resistance.
- **PVA (polyvinyl alcohol)**. These are the gloves of choice when dealing with aromatic and chlorinated chemicals. Their biggest disadvantage is that they are water-soluble, they degrade quickly in wet humid environments.
- **Butyl**. Butyl gloves are the choice when working with gases such as chlorine or hydrogen cyanide and ketones (acetone, MEK, etc.). The main draw back of butyl gloves is that they are expensive.
- **Vitron**. Vitron is the last resort polymer. It offers good protection to many chemicals especially aromatic hydrocarbons. It is the most expensive glove material.

Surface Sampling, Tape Sampling Versus Swab Sampling

Surface sampling during IAQ investigations is a common tool used by investigators. It is often performed in conjunction with air and bulk sampling techniques and its nondestructive nature serves several useful purposes. Surface sampling can be performed to determine whether microbial levels in various areas are greater than background levels and to determine possible sources of microbial contaminants that may be a source of aerosolization. Surface sampling is also useful for performing presence/absence analyses and measuring relative degrees of contamination.

Microbial contamination on surfaces can be caused by the settling of previously aerosolized organisms or by the actual surface acting as a medium for the growth of the organism. Sampling strategies vary from randomly picking areas to highly targeted sampling strategies. Two of the most common surface sampling techniques for fungi include swab sampling and tape sampling. Each method has its advantages and disadvantages and should be chosen based on the sampling strategy and the purpose of the investigation.

Tape sampling is a common and easy to perform surface sampling technique. It is a very useful tool so long as information about the viability of the microorganism is not required since tape samples cannot be cultured. The investigator needs only clear adhesive tape for obtaining the samples and glass slides or a sterile container or ziplock bag to transport the samples to a laboratory. The investigator removes a portion of the clear tape, approximately one to two inches long, and places the adhesive side on the surface to be sampled. If the sample contains too much debris it may then be difficult to examine in the laboratory and the sample should be retaken.

There are a number of benefits to tape sampling. These include the ease of sampling, lack of expensive sampling supplies, and no requirements to ship the samples rapidly in any type of refrigerated containers. Tape samples are also rapidly processed and generally an investigator can expect to receive results in approximately one day. The value of the data generated by tape sampling depends heavily on the investigators choice of sample locations. A single surface with visible growth may have multiple fungi present in different areas and thus one sample may not give an accurate representation of the various species present. Tape samples cannot be cultured for the determination of viable versus nonviable contamination nor is it useful for the determination of bacteria.

Swab sampling is the other common nondestructive surface sampling technique.

It can be used for a microscopic screen and fungi identification and it can also be cultured onto a media for viable fungi and bacteria identification. One weakness of using swabs for microscopic identification over tape methods is that more fungal structures tend to be disrupted and thus makes laboratory identification more difficult. It is of course important to use a sterile swab when performing this sampling technique and it should be clearly stated to the laboratory if the sample is for microscopic identification and/or culture methods.

The ability to recover various organisms is also dependent on the surface material to be tested. Generally smoother surfaces are more easily and effectively sampled using surface sampling techniques. Porous and fleecy areas are often more difficult to sample utilizing tape and swab sampling techniques. When using these methods it is a good procedure to send a blank to the laboratory for quality control purposes.

“Several attempts have been made to identify surface concentrations of biological materials that indicate unhealthy conditions. No currently available guidelines have been generally accepted due to the large variability in surface sampling results and poor correlation with inhalation exposure" (ACGIH, Bioaerosols Assessment and Control, 12.2.4). This position by the ACGIH exemplifies the need to use surface sampling data as a tool in conjunction with other aspects of the IAQ investigation to help support or disprove a hypothesis of an investigation.

Abstract from “Redefining Exposure for the Occupational Health Care Professional”

Here is an abstract of an article written by H.M Sandler, M.D. from “Occupational Hazards”. Entitled, “Redefining Exposure for the Occupational Health Care Professional”

Traditional and occupational health care professionals (HCP) routinely ask workers questions about exposures. Information about exposures is used when performing toxicity studies, epidemiologic research, and investigations about health complaints and assessment of work-related injuries and illnesses for OSHA recordable and workers' compensation cases.

The author states that in many instances all there is to go on is the job title/description, old spot checks or as illustrated above individual worker reports. The task is certainly made simpler when extensive monitoring data is available where actual air monitoring for chemicals, noise, dosimetry or quantitative ergonomic evaluations. But even when air monitoring data is available, many factors may limit its usefulness.

Measuring the Data

Worker descriptions of exposure are rarely accurate. Workers making claims for compensation may have an interest in enhancing the level, or duration of a potential exposure whether it is chemical, a physical agent (i.e., noise, heat, vibration), biologic or biomechanical. Workers with psychosocial personal workplace concerns may also be prone to overstate exposures, while other workers may significantly under estimate workplace hazards. A recent ergonomics study demonstrated that workers in one setting consistently overestimated all levels of activity, such as hand usage, lifting and bending. During the course of the workday, while professional ergonomic assessment noted the true biomechanical activity level across the board to be 1/3 to 1/2 or more lower than that offered by the workers.

The author continues to state that relying upon historical air monitoring data can also pose certain accuracy problems. The sampling may have been point source (right at the machine/process location) and not be reflective of actual breathing zone levels. Point source data may only reflect a few brief high bursts with virtually no exposure throughout the rest of the shift. Earlier testing results may reflect old manufacturing processes that have been since updated, or not assess the impact of newly installed local exhaust, or enhancement of general ventilation.

Workers may not be asked by the occupational HCP or volunteer their present or relatively recent use of respiratory protection. This information may be helpful for acute efforts of recent events, but not accurately represent prior exposures to agents with lung latent effects, such as asbestos, when respirators were not worn. It is just as important to assess the adequacy of the intended respiratory protection. Was the type of respirator used demonstrated to be effective for the chemical? Particulate or biologic agent? Was it carefully maintained? Were the filters changed frequently enough? And did the worker achieve an effective facial fit? It is not universally appreciated by all HCPs that even small gaps between the edge of the respirator and the face will seriously reduce or render useless the expected protection of the device.

The author then discusses sampling strategy and multiple chemical sensitivities (MCS), he states that in the past several decades, the occupational and environmental presence of odors has created great concerns, especially in Sick Building Syndrome and those individuals claiming Multiple Chemical Sensitivities (MCS). MCS has now been designated as idiopathic environmental intolerance (IEI). However, many substances have odor thresholds (the airborne level at which individuals will first report the smell) well below the levels that result in acute or chronic adverse health effects. The rotten egg smell of hydrogen sulfide or the presence of formaldehyde are prime examples.

Unfortunately certain individuals may develop symptoms when they perceive chemical presence. In these instances, even carefully performed air monitoring may not convince the worker or their personal HCP that the workplace does not pose an actual health threat. Odor can be a protective characteristic. Its presence will alert the worker and management that there is a potential for hazardous exposure and checks for leaks and spills should be conducted. However, a number of substances have odor thresholds well above their toxicity thresholds. Thus, HCPs should have adequate informational databases to confirm these levels for individual agents.

The author then related the principles used by industrial hygienists to develop a sampling strategy.

The author continues by stating that the nature of the hazard will frequently impact how sampling is conducted. For example, Baker's Asthma is considered to be the result of exposure to high levels, usually brief bursts in susceptible individuals. Sampling to obtain a time-weighted average (TWA) over an eight hour day will not

provide information on peaks which will help identify potentially sensitizing exposures.

Exposure Modeling

Even when exposure data is lacking occupational HCP can frequently turn to exposure modeling to help establish actual or a probable exposure range likely to have occurred. Exposure modeling takes a great deal of expertise and experience. Modeling can be performed through calculations, material testing, laboratory recreation and reconstruction sampling.

He concludes by stating that accurate exposure assessment is critical to many of the functions of occupational HCPs. Awareness of potential gaps, and pitfalls can prevent poor decision making results in overestimates and underestimates of what really happened to workers. Working as a team with highly trained and experienced industrial hygienists is a must. But remember it frequently falls on the HCP to determine the health endpoint of concern and personal health factors. Such as facial disfigurement preventing good respiratory fit that will impact how exposure determination is measured or modeled.

Setting up a Plan for Successful Employee Training

This article focuses on keeping the training interesting and fun. It recommends you:

- Start the training with some type of icebreaker or welcome exercise.
- Go over the class agenda and allow attendees to ask any questions.
- Explain how the training will help them, not only on the job but also in their personal life.
- Review the class objectives and follow your lesson plan.
- Make sure students have a note-taking outline that matches the slides you present.
- Use pictures whenever possible to illustrate your teaching points.
  - Power Point slides with action and sounds really help spice up the training and keep the class interest.
  - Limit the information on each slide; make them easy to read.
- Summarize the information presented at the end of the training.
  - Summarize on one slide if possible.
  - Ask the class some questions to test their knowledge, use this to reinforce key points.

Study Tracks Hospital Worker TB Rates; Risk Rises With Greater Patient Contact

Workers with direct exposure to patients or patient lab specimens at a Georgia hospital showed a 3.6-fold increased risk of exposure to tuberculosis when compared with workers with no direct patient contact, a recent NIOSH report said.

NIOSH also conducted an epidemiological study of the risk of tuberculosis transmission among hospital workers by comparing those with "patient contact" to those with "no patient contact." Risk was defined by tuberculin skin test (TST) "conversions"-a positive TST in a person who had a previously recorded negative result. The rate of TST conversion was 5.87% for workers with potential exposure and 2% for workers with little or no exposure. Among workers with potential exposure, statistically significant elevated risks were found for nurses, laboratory technicians, pharmacy workers, phlebotomists, emergency room workers, housekeepers, clerks, and emergency responders.

NIOSH cautioned that only limited information was available concerning employees' vaccination status and no information was available concerning employees' country of birth, which is a recognized risk factor for TB.

Grady Memorial Hospital is a public, university affiliated, 1,000-bed inner-city hospital with about 5,000 workers. In January 1992, an increased number of positive skin tests were reported among health care workers on two wards.

Since the NIOSH evaluation, the hospital has undergone many renovations and has implemented new TB control measures including new isolation procedures, expanded employee education about TB, and the use of masks for workers entering respiratory isolation areas. Also NIOSH examined efforts at containment, such as fan systems in patient rooms and isolation rooms, as ways to reduce the risk of transmission. Data analyzed by hospital, staff show a subsequent reduction in TST conversions among hospital employees.

The study suggested that new and expanded TB control measures, including administrative controls, engineering controls, and worker personal respiratory protection could reduce the risk of TB transmission among health care workers.

It also suggests that effective TB transmission control is needed not only in areas of hospitals where patient care is taking place, but in all areas where employees might be exposed to infectious individuals. The study also emphasized the importance of following recommendations of the national Centers for Disease Control and Prevention that all health care facility personnel be included in TST programs, not just those providing patient care.

Hepatitis C Costs Sure to Rise

Hepatitis C is already a $15 billion problem for the U.S. health care system, but it's getting worse. Costs will peak at $26 billion in 2021 as the latency period ends for people infected years ago, the Frontline Healthcare Workers Safety Foundation

reported at a major HCV conference this month. The foundation cited a cost-benefit analysis by Milliman & Robertson Inc. that found every dollar spent on curative HCV treatment yields $4 in medical cost savings. The study noted that about 1,000 health care workers are infected with HCV through needlesticks each year, and that a health worker's risk of getting HCV that way is 10 times greater than the risk of contracting HIV through a needlestick.

NIOSH Alert - EtO

A new NIOSH *Alert* warns of the dangers involved in large-scale industrial processes that use ethylene oxide gas (EtO) for sterilizing medical devices and other products. High concentrations of EtO are flammable, and the gas has been associated with 10 explosions at industrial sterilization facilities and at EtO repackaging plants.

NIOSH Director Dr. Linda Rosenstock explained, "if ignited from overfeeding in industrial sterilization processes, EtO can explode with enough force to lift a 50,000 pound sterilization chamber three feet off its foundation, and blow out steel ductwork."

The Alert, "Preventing Worker Injuries and Deaths from Explosions in Industrial Ethylene Oxide Sterilization Facilities," offers safety recommendations for employers and workers, a detailed discussion of potential hazards, case studies, and a list of resources for additional information. NIOSH compiled the new alert with the help of the Ethylene Oxide Sterilization Association and the U.S. Environmental Protection Agency.

See, http://www.osha-slc.gov/dts/osta/anestheticgases/index.html

INTERNET NEWS

OSHA, EU Agency Launch Joint Web Site

The Occupational Safety and Health Administration and the European Agency for Safety and Health at Work established a joint World Wide Web site to provide wider access to the job safety and. health information available from each agency, OSHA announced.

Created as part of the ongoing partnership between the two safety organizations, the site enables employers in the European Union and the United States to access information on safety and health topics such as best practices, statistics, and research. The site links visitors to detailed data from each organization. Links to both agencies' individual sites focus particularly on construction safety and ergonomics.

Visitors to the site can view information developed by the EU as well as standards for individual European countries. They can also link to OSHA standards, compliance documents, and publications.

The Web address for the joint site is http://osha.euint/eu-us/.

INDUSTRIAL HYGIENE PROFESSIONAL NEWS

BCSP Makes Two More Specialty Exams Available

Certified Safety Professionals can sit for two new specialty examinations to demonstrate competence in construction safety and system safety, the Board of Certified Safety Professionals announced. The exams are available weekdays at some 200 Sylvan Technology Centers in the United States and Canada. They consist of 100 multiple-choice questions, with a three-hour time limit. Results are available immediately. BCSP Executive Director Roger L. Brauer said the exams were developed with help from "several hundred specialists" in construction safety and system safety. "The examinations truly represent what the safety professional does in these unique job settings," he added. BCSP began offering an ergonomics specialty exam in December 1998.

The results of the ABIH Spring Exam can be found at:
http://www.abih.org/Exam/00spring-results.htm

PUBLICATIONS

NIOSH Pocket Guide to Chemical Hazards

Complimentary copies of the NIOSH Pocket Guide to Chemical Hazards and Other Databases CD-ROM (July 2000, Publication No. 2000-130) can be obtained by contacting the NIOSH Publications Office [pubstaft@cdc.gov, (800) 35-NIOSH, or fax (513) 533-8573].

The CD-ROM is an update of a previous NIOSH publication of the same title (April 1999, Publication No. 99-115) and contains the following:

1. Immediately Dangerous to Life and Health Concentrations (IDLHs)
2. International Chemical Safety Cards (WHO/IPCS/ILO)
3. NIOSH Manual of Analytical Methods (NMAM)*
4. NIOSH Pocket Guide to Chemical Hazards (NPG)
5. OSHA Sampling & Analytical Methods**
6. Recommendations for Chemical Protective Clothing
7. Specific Medical Tests Published for OSHA Regulated Substances
8. Toxicologic Review of Selected Chemicals
9. 2000 Emergency Response Guidebook*
10. NIOSH Certified Equipment List as of March 31, 2000

Essential Resources for Industrial Hygiene: A Compendium of Current Practice Standards and Guidelines

This new AIHA publication should be valuable to practicing professionals. Get more information at http://www.aiha.org

OSHA Technical Manual

Hospital Investigations: Health Hazards. OSHA Technical Manual (TED 1-0.15A), Section VI - Chapter 1 (1999, January 20), 22 pages. Describes lasers as a potential hazard in the hospital environment and identifies areas to investigate.

New NIOSH Publications/Reports/Database

*What Every Worker Should Know--How to Protect Yourself From Needlestick Injuries (Pub. No. 2000-135) http://www.cdc.gov/niosh/2000-135.html

Laser Safety Standard

There's a new laser safety standard out. ANSI Z136.1 (2000), *Safe Use of Lasers*, is considered "the most comprehensive laser safety information available," according to the Laser Institute of America. LIA says the 163-page standard is on back order until Sept. 15. Laser safety officials who can't get it immediately can, however, sign up for LIA's "Fundamentals of Laser Safety" course Oct. 19-20 in San Francisco. This introductory course will include a section about ANSI Z136.1; for information, contact Orlando, Fla.-based LIA via its Web site.

OSHA Introduces New “Plain Language “ Work Place Posters

The federal Occupational Safety and Health Administration introduced a new workplace poster for informing workers of their rights to a safe workplace. The posters are free and may be downloaded from the OSHA Web site.

Employers are not obliged to replace the posters they already have, but they are required to post an OSHA notice of employee rights in a prominent location. In keeping with the goals of the National Partnership for Reinventing Government, the new poster tells workers in plain language that they have the right to a safe workplace, how they may file a complaint, report an emergency, or seek OSHA advice, and that they have a right to confidentiality.

To get copies of the poster: download from the Web site at www.osha.gov.oshpubs/poster.html write the OSHA publications office, Room N3101, 200 Constitution Ave. NW, Washington, DC 20210; or call any OSHA office, usually listed under Federal Government in local telephone directories.

Right-to-Know Reading Rooms Announced; Will be Available by Year's End, EPA Says

Government reading rooms for viewing chemical "worst-case scenario" information may start opening this fall and will be located in EPA and Department of Justice offices.

Initial access to at least one of the more than 50 planned reading rooms is expected in Washington, D.C., by October. Background information from EPA's Chemical Emergency Preparedness and Prevention Office added that some reading room access should be available by Dec. 31.

The worst-case scenarios are estimates of how an accidental chemical release might impact those living near a regulated facility. Some 15,000 facilities that store or use hazardous chemicals have submitted the scenario estimates to EPA under Section 112(r) of the Clean Air Act. A 1999 amendment to the act required EPA and DOJ to regulate access to the information following congressional concerns that unrestricted access to such data could encourage a terrorist attack on chemical plants.

To ensure that users do not view more than 10 worst case scenarios per month (for facilities outside of their local area), EPA and DOJ had considered establishing a national database of individuals using the reading rooms.

JUST THE FACTS

?? OSHA continues to delay publication of final recordkeeping rule.

?? OSHA announced they will not make substantial changes to the existing lockout/tagout rule.

?? NIOSH Guidance on the Use of Back Belts

Rather than relying solely on back belts, the Institute recommends that employers and workers minimize their risk of back injury by developing and implementing a comprehensive ergonomics program. A program of this nature would focus on prevention and:

- ?? include an assessment of all work activities to ensure that tasks can be accomplished without exceeding the physical capabilities of the worker;
- ?? incorporate on-going, comprehensive training for all workers on lifting mechanics and techniques;
- ?? provide a surveillance program to identify potential work-related musculoskeletal problems; and
- ?? include a medical management program.

Additional information is available in two NIOSH Publications: *Workplace Use of Backbelts, Review and Recommendations* (DHHS [NIOSH] Publication No. 94-

122) and *Back Belts - Do They Prevent Injury?* (DHHS [NIOSH] Publication No. 94-127).

?? Microbial Fact #1: Bacillus and Clostridium are gram-positive, rod shaped bacteria able to produce highly resistant endospores. The spores can be found in soil and air. Species of Bacillus grow aerobically, and Bacillus anthracis is the cause of anthrax. Clostridium species grow anaerobically and different species cause tetanus, botulism, and gas gangrene.

?? Fungal Fact #1: Penicillium notatum and some closely related species of penicillium are occasional causes of infections in man. Pulmonary infections are rare, but it can infect the ear and cornea. It has been identified as a contributing cause in some cases of Sick Building Syndrome. Penicillium notatum can produce penicillin, and some people are highly allergic to this antibiotic.

?? Acremonium : The fungal genus Acremonium, formerly known as Cephalosporium, contains approximately 100 species, of which most are saprophytic. They are often isolated from decaying plant material, decaying food, and soil. Acremonium is extremely common in our environment and not commonly associated with human disease, but has been reported to be allergenic. However, several species are recognized as opportunistic pathogens of man and animals, causing mycetoma, onychomycosis, and hyalohyphomycosis. These include A. falciforme, A. kiliense and A. recifei, A. alabamensis, A. potroni, A. roseo-griseum and A. strictum.

?? Colonies of Acremonium are often characterized by their pale colors, often turning pink or orange, and their production of wet, slimy spores. The colonies are fast growing, generally beginning as compact and moist and then becoming overgrown with loose, cottony, aerial hypae. The majority of the species grow optimally between 20 and 30 degrees Celcius and can be grown well on most general fungal media.

?? Acremonium's medical importance to man:

In the late 50's the first of a new class of B-lactam antibodies was isolated from Acremonium. One of these, Cephalosporin C, was shown to be similar in structure and biosynthetic properties to penicillin. Cephalosporin C was not found to be a particularly potent antibiotic, but it did serve as the precursor to the development of semi-synthetic cephalosporins, which are an important class of antibiotics. Acremonium is considered to have a ubiquitous distribution. It generally requires very wet conditions to grow in indoor environments. In new growth, the spores are generally moist and not usually easily aerosolized unless they are disturbed. The spores are small, one-celled in nature, and often colorless.

Source : http://www.usaweekend.com/00_issues/000820/000820mold.htmltop

ARMY ITEMS OF INTEREST

None

ADMINISTRATIVE INFORMATION

This document was prepared for the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), Directorate of Occupational Health Sciences. The POC at the USACHPPM is Mrs. Sandra Monk; Program Manager; Industrial Hygiene Management Program; DSN: 584-2439; COM: 410. 436.2439; email: Sandra.Monk@apg.amedd.army.mil.

This document summarizes information and regulatory actions that are relevant for Army Industrial Hygiene Program personnel. We distribute this summary in electronic form only. Please make it available to your staff if they do not have direct access to an electronic copy. A copy is also posted on the Army IH Program Home Page *(http://chppm-www.apgea.army.mil/Armyih)*. If you would like to be added to the electronic mailing list or if your e-mail address changes, please contact Tammy Budkey, e-mail: Tammy.Budkey@apg.amedd.army.mil; or call her at DSN: 584-2439; COM: 410.436.2439; fax: 410.436.8795.

At a minimum; we review the following publications in preparing this summary: AIHA Journal; the Synergist; Today (ACGIH's Newsletter); The AAIH Newsletter; OSHA Week; the Federal Register; BNA OSHA Reporter; Applied Occupational and Environmental Hygiene; The Journal of Occupational and Environmental Medicine; The Journal of Environmental Health; Professional Safety; Safety and Health, Occupational Hazards; Occupational Health and Safety; and Industrial Safety and Hygiene News. We also gather information from a variety of sources on the Internet using the Army IH Program Home Page as our gateway. (http://chppm-www.apgea.army.mil/Armyih/).

If you have questions or comments; please contact Jim Evenden at jevenden@lmi.org; 410.638.2081/2086 (voice) or 2093 (fax).